

**ABSTRACT OF THE DISCLOSURE**

In a method for immobilizing molecules on a surface, a layer of a hydrophobic, e.g., a non-swelling polymer, may be applied to the surface and molecules are immobilized on a surface of the polymer layer. The hydrophobic polymers may be polyimide or polystyrene, and the surface to which the polymer layer is applied may be made of an inorganic material, e.g., a semiconductor material (silicon), a semiconducting oxide (silicon dioxide), glass, nitride, or ceramic. Hydrophobic polymers such as polyimide or polystyrene can be applied to the surface of an inorganic support with conventional methods. Further, they electrically insulate the support with respect to the molecules applied to the surface of the polymer layer or substances associated with these molecules. Thus, electrical sensors and processor circuits can be integrated into the support without any detrimental effect on their function due to molecules and substances applied to the surface of the polymer layer.